

**HEAT EXCHANGE APPARATUS, SYSTEM, AND METHODS  
REGARDING SAME**

**Abstract of the Invention**

5           A heat exchange apparatus (e.g., that may be used with an existing conduit  
that is in a flooded state and a heat pump apparatus or other HVAC apparatus of a  
thermal energy exchange system) includes at least one fluid source conduit  
configured to replace a section of the existing conduit that is in a flooded state and  
further configured to permit at least a portion of a fluid that is in the existing conduit  
10       to flow therethrough. The heat exchange apparatus further includes at least one heat  
transfer conduit having an inlet and outlet configured to be coupled to a heat pump  
apparatus to form a closed loop therewith. Further, the heat transfer conduit is  
further configured to communicate with the fluid source conduit for providing  
thermal energy exchange between the fluid flowing through the fluid source conduit  
15       and a fluid (e.g., a refrigerant, water or a water and anti-freeze mixture) flowing in  
the closed loop.

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